

Work Order ID 142882***142882***

Page 1

Monday, March 21, 2016 9:06:07 AM

Item ID: D2585

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Latch Clamp

Start Date: 3/22/2016 Start Qty: 65.00

65

Cust Item ID:

Required Date: 4/12/2016 Req'd Qty: 65.00

65

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2585	Rev B								

105

0.00

105

Purchasing

Memo

0.00

Purchasing

ISSUE PO 31764
CUT PER DRWG D2585 REV.B65 MAR 21 2016DAS
13
9-89

115

Receive & Inspect for Damage & Mat'l Certs

0.00

115

Packaging

Memo

0.00

Packaging

66x SP/6-04-01

125

QC5- Inspect part completeness to step on W/O

0.00

125

QC

Memo

0.00

Quality Control

66DAS
38
9-89
APR 04 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mis-labeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Monday, March 21, 2016 9:06:07 AM

Page 3

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Latch Clamp

Start Date: 3/22/2016 **Start Qty:** 65.00

65

Cust Item ID:

Required Date: 4/12/2016 **Req'd Qty:** 65.00

65

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code
---------	--------	-----------

Accept
QtyReject
QtyReject
Number

**Insp.
Stamp**

160

Identify as per dwg & Stock Location: 5658

0.00

160

Packaging

Memo

0.01

Packaging

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.11

Quality Control

66

DAS
6
300

APR 05 2016

MCS

APR 06 2016

mc5

APR 06 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER : ☐							

Picklist Print

Monday, March 21, 2016 9:06:06 AM

Page 1

Work Order ID: 142882

142882

Parent Item: D2585

D2585

Parent Item Name: Latch Clamp

Start Date: 3/22/2016

Required Date: 4/12/2016

Start Qty: 65.00

Required Qty: 65.00

Comments: IPP D04.02.16Reformat; Add Receiving StepKJ/RF
IPP C 06.07.21 waterjet EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2585P		Purchased	No				Each	0.0000		65			
D2585P									**				
Latch Clamp													
M304S14GA		Purchased	No			100	sf	39.8500	0.0157	1.07421			
M304S14GA									**				
304SS sheet .080													

66 x 80 1/2 - a-d

APR 01 2016

DAS
13
9-89

Location

Loc Qty

Loc Code

MAT019

39.85

M129972

39.85

m134604

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

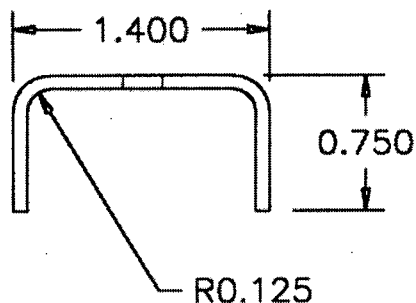
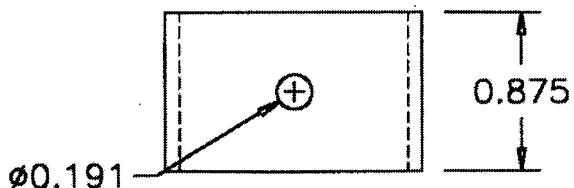
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐							
Misidentified ☐	Past Due ☐								

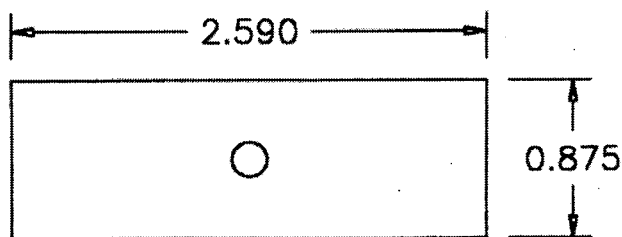


DESIGN BW	DRAWN BY [Signature]	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED BW	APPROVED BW	DRAWING NO. D2585	REV. B SHEET 1 OF 1
DATE 96:07:11		TITLE MOUNTING CHANNEL	SCALE 1:1
B	97:03:14	ADD FLAT PATTERN	

RELEASED
97/03/14 DS



FLAT PATTERN



MATERIAL: 304/316 SS, 14 GAUGE (0.078)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
EXCEPT TO ATTENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 142882 MJS
16-03-14



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO31764**

Purchase Order Date 3/21/2016

PO Print Date 3/21/2016

Page Number 2 of 11

Order From :

VC-TPI001

TPI INDUSTRIES INC.
148 RUE GOODFELLOW
DELSON, QUEBEC J5B 1V4
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450-633-0484

Ship To Contact

Ship To Phone

Ship Via: —

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

3	D3637-1P ✓	Bracket	4/6/2016	FN	12.00 ✓	\$4.50	\$54.00
			Yes		Each		
			4/6/2016				

CUT AS PER DWG D3637 REV. B
B142872
MATERIAL 304 SHEET 14 GA

Line Total: \$54.00

4	D2585P ✓	Latch Clamp	4/6/2016	FN	65.00 ✓	\$2.40	\$156.00
			Yes		Each		
			4/6/2016				

CUT AS PER DWG D2585 REV. B
B142882
MATERIAL 304 SHEET 14 GA

Line Total: \$156.00

5	D4176-1P ✓	429 Clamp, Top	4/6/2016		8.00 ✓	\$5.25	\$42.00
			Yes		Each		
			4/6/2016				

CUT AS PER DWG D4176 REV. B
B143368
MATERIAL 304 SHEET 14 GA

Note:

3/21/2016

T.P.I. INDUSTRIES INC.

188 GOODFELLOW
DELSON, QUÉBEC J5B 1V4
CANADA
Tel: (450) 633-0484
Fax: (450) 633-0879

Packing Slip

Packing Slip No.: 7436
Date: 2016-03-29
Page: 1

Sold to:	Ship to:
Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada	Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada
Order No.: 31764	Sold By: JONATHAN LESSARD
Shipped By:	Ship Date: 2016-03-30
Tracking No.:	

Item No	Unit	Description	Quantity
D2281 ✓		jack saddle ✓	80 ✓
D2585 ✓		latch clamp ✓	65 ✓
D3637-041 ✓		bracket assy ✓	12 ✓
D4060-1 ✓		ski clamp ✓	132 ✓
D4176-1 ✓		429 clamp ✓	8 ✓
d2232-3 ✓	Chaque	d2232-3 basket hinge ✓	15 ✓
d2581 ✓		mounting bracket ✓	68 ✓
D3191-1 → DB 98-1 ✓		fitting ✓	10 ✓
D3405-041 ✓		ground handling lug ✓	32 ✓
D3405-043 ✓		ground handling lug ✓	6 ✓
d3561-1 ✓	Chaque	d3561-1 seal insert tool ✓	6 ✓
d3912-5 ✓	Chaque	d3912-5 eyebolt plate ✓	30 ✓
d4021-1 ✓	Chaque	d4021-1 handle plate ✓	14 ✓
d4148-1 ✓	Chaque	d4148-1 crosstube lug plate fwd ✓	44 ✓
d4149-1 ✓	Chaque	d4149-1 crosstube lug plate aft ✓	20 ✓
d4150-3 ✓	Chaque	d4150-3 arm plate ✓	8 ✓
d4151-1 ✓	Chaque	d4151-1 lower hardpoint plate ✓	40 ✓
d4151-3 ✓	Chaque	d4151-3 upper hardpoint plate ✓	42 ✓
Comment: Net / 30 from date of invoice 2% svc. chg. on invoices over 30 days			

Sp/b ai-01

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
.1200 Nom X 48.0000" X 96.0000"
PART NO.

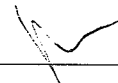
PO/Rel 31741

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-983229-002

21Mar16
Pg 1/1

Signed by: 



METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

740 Imperial Road North

Certificate: 117938 1

Customer: 007206 001

Mail To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Ship To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Date: 11/26/2015 Page: 1

Steel: 304/304L

Finish: 2B

Corrosion: ASTM A262/14;180Bend-OK

Your Order: PEC271093

NAS Order: WN 0072789 07

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED. UNS 30400/30403
ASTM A240/15a, A480/14b, A666/15; ASME SA240/13, SA480/13, SA666/13
CHEM ONLY ON FOLLOWING ASTM: A276/13, A479/13a, A484/13a, A312/13
CHEM ONLY ON FOLLOWING ASME: SA312/13, SA479/13
AMS 5511H/5513J XMRK: MIL-5059D AMD3(X CRN MEAS); MIL-4043B
NACE MR0175/ISO 15156-3:2009 A, MR0103/07; QQS766D-A X MAG PERM
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
02X2A3 DA	02X2A3 D		.1163	48.0000	4,970	SHEETS	096.00	32	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

Chemical Analysis per ASTM A751/08

CHEMICAL ANALYSIS										
			CM(Country of Melt)		ES(Spain)		US(United States)		ZA(South Africa)	
HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
X2A3	US	.0270	18.2380	.3950	1.7650	.3735	.0830	8.0045	.0340	.0010
SI %										
.2375										

MECHANICAL PROPERTIES

Product Id#	Coil #	l o c	d i r	UTS KSI	20C .2% YS KSI	20C ELONG %-2"	% Hard RB	Tail Hard
02X2A3 DA	02X2A3 D	F	T	92.66	44.92	51.32	86.00	87.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ABHIJEET BHAVE

11/26/2015

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
.0750 Nom X 48.0000" X 120.0000"
PART NO.

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Pg 1/1

Signed by



No.600,Xinglong St., Jiexing Vill., Gangshan Dist.,
Kaohsiung City 82057, Taiwan (R.O.C)

Order No. : UB1401303

Specification/Steel Grade : DIN EN 10028-7 1.4301/1.4307_C
Surface Finish : No.2B

1. We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.
2. The material described above has been detected with free irradiation.
3. NISCO has established a QMS according to ISO 9001 which is certified by DNV CERT (reg.-no. 0058-2002-AQ-RGC-RtA).
4. Inspection and gauge measurement: Satisfactory
5. The report can only be reproduced in full.
6. This certificate complies to 3.1/DIN EN 10204:2005.
7. The tests including "Tensile Test", "Intergranular Attack" (I.A. TEST) have been accredited by AZL TESTING CERT #0958-02).

F. A. Hanson

Doc No. 220730 Indexed 4Nov15 by slssup1